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WOMEN SELF PROTECTION SYSTEM USING IOT & GPS

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ABSTRACT

These days the safety of an individual is at stake, it may be due to ill health or due to the increasing crimes such as the sexual assaults, molestation, abuse etc. So in order to prevent these to a certain extent, this paper proposes an automated wearable smart device to prevent the above mentioned cause, which has access to internet (IOT). The GPS is used to identify the victim's location when in need.

The system is developed using NodeMCU Board which has in-built Wi-Fi Module to connect to the internet easily. This NodeMCU Board programmed in Embedded C Language and interfaced with Temperature sensor and Emergency Button and also GPS module. The novelty of the work is that the system automatically alerts the parents/relatives/caretaker by sending or uploading the data in the IOT web-service provider app or website. When immediate attention is required for the child during emergency IOT app will send anmessage to the parent. While the buzzer alerts the surroundings of the victim.

INTRODUCTION

In the modernized lifestyle with decrease in the ethics and morals, there is a rapid increase of crimes. The technology which has a major role in our day to day lives has both its own advantages as well as disadvantages, and when used correctly can make a great difference. One's safety is always at stake let it is due to sudden illness or due to sexual violation. These can be prevented by a new kind of technological development and its usage. Few of the recent technologies include mobile or android applications for ones safety such as Anuti, Wosapp, Disha etc. These apps require the registration and login certain credentials , during the time of need the user has to wave the mobile for the message alert to be sent to the registered family and the authorities numbers for help. The main drawback is that there are rural areas where people don't use mobiles, and in other cases where there are children, they often play with mobiles and if the accidentally happen

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to wave the mobile then it results in false alarming. Some other technologies prescribe wearable accessories which need manual operation i.e. manually whenever there is need of help they need to press a button to alert for help using various communication technologies such as RFID, Zigbee, Raspberry pi, Bluetooth etc, but these cannot be that effective as sometimes the victim might be in the condition to not able to press the button. The other way is where the device is clipped to the user's foot and there is a certain gesture to be made for activation of the device which might not be possible when danger comes. While the other suggest to have the device in the public transportation and to sign in the using One Time Password but this is limited to public transportation. Other suggests a shock generating glove which is not a mandatory accessory in few countries or except for only winter. The most updated are wearable with automation using IOT . All the technologies discussed are only for women safety, but whereas we propose for all genders, ages and both health and prevention of any sexual violation.

LITERACY SURVEY

B.Vijayalakshmi is proposed a scheme to improve the women safety by using GPS and gsmmodel.A small device with a buzzer and microcontroller is designed, and it can be placed on band or watch. When any insecure situation, the woman can make use of this device to send alert SMS by pressing this buzzer to predefined numbers. But this scheme cannot generate automatic alert SMS. Instead, it requires the human interaction during a panic situation.

The scheme to determine Detection Of Global And Local Motion Changes In Human Crowds which may arise in sporting events, function etc. A Groups Are Detected Based on location, velocity and tracked the time using association algorithm. The behavior changes of people can be detected by using holistic approaches and video surveillance by representing in the 2D histogram. But it can't be able to detect the motions changes in human crowds in 3D histogram representation.

EXISTING SYSTEM

In an Existing system when women face a threat, the systems records the image and audio of the current situations and upload to cloud, but precautionary measures were low, Various systems used technologies such as SOS message, GSM and Wi-Fi networks for communications. To detect the difficulty situation of women many techniques were

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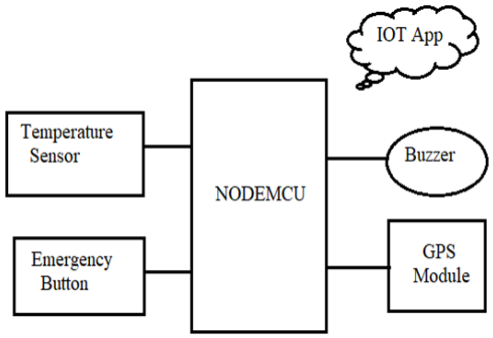
used, a button is used which a women should press when she is in such situation, this is manual, in many situations she may not be able to press the button manually, other auto detecting system used temperature sensors to detect the women condition based on her body temperature, heartbeat sensors are used to detect the conscious state of the women, even many systems used sound detectors to identify the variation in her voice in that situation. Every system uses GPS and street images to identify the location of the women, those locations are fetched only when she faces such situations, there is no system to send locations periodically, these systems not only send the location to police and official safeguards, these systems can also store information about their friends and family. Hence the location is shared with friends and family also, this increase the possibility to save the women quickly. Most of the systems are mobile applications that are dependent on the mobile network, mobile battery and other technical problems are also there in a mobile application. These mobile applications can't send the locations periodically because they require power and data bandwidth of mobile for other purposes like communication and other activities. Hence a separate device is developed specifically to ensure the womensafety. Our goal in this paper is to gather as much published techniques as we could find their key ideas and found advantage and disadvantage and limitation used.



ADVANTAGES

- We can get the exact location of the victim by using of the GPS
- Switch device not required in emergency situations

APPLICATIONS

The Proposed work aims at designing an IoT based safety device that relies on providing security to the women by fingerprint-based method of connectivity to the device and alerting nearby people and police when a women is not safe.

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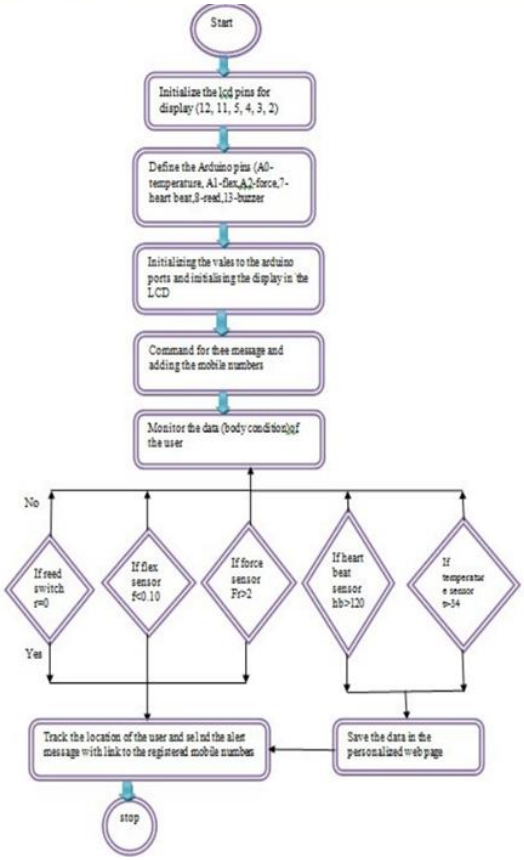

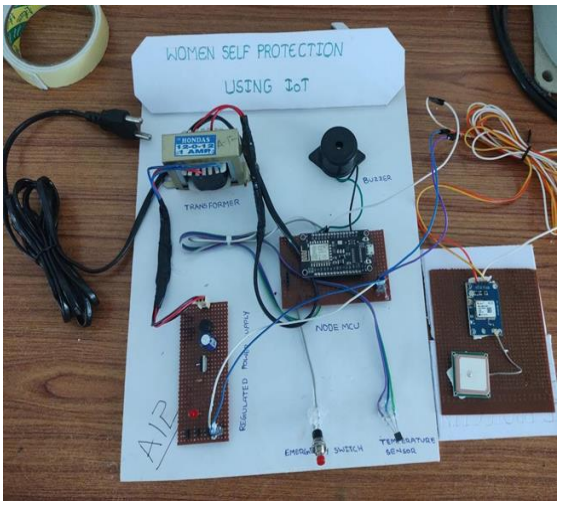

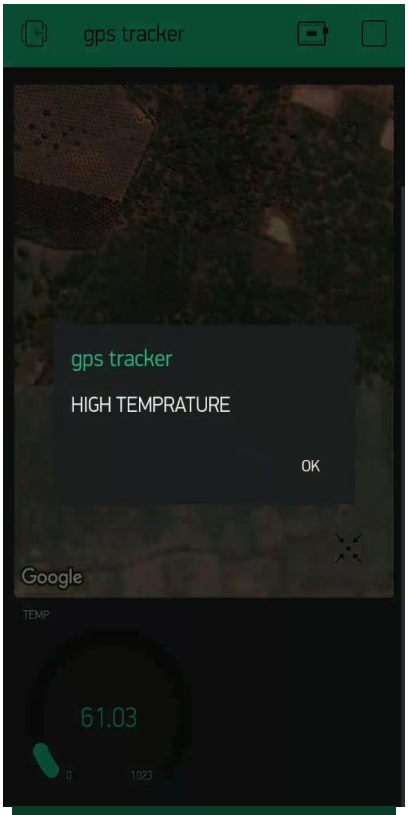

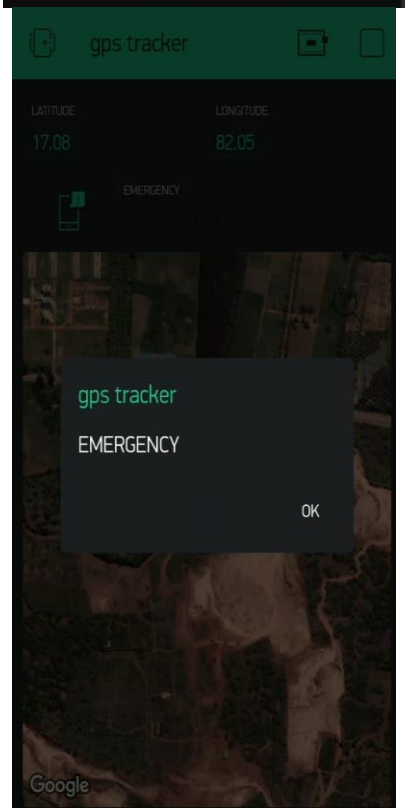

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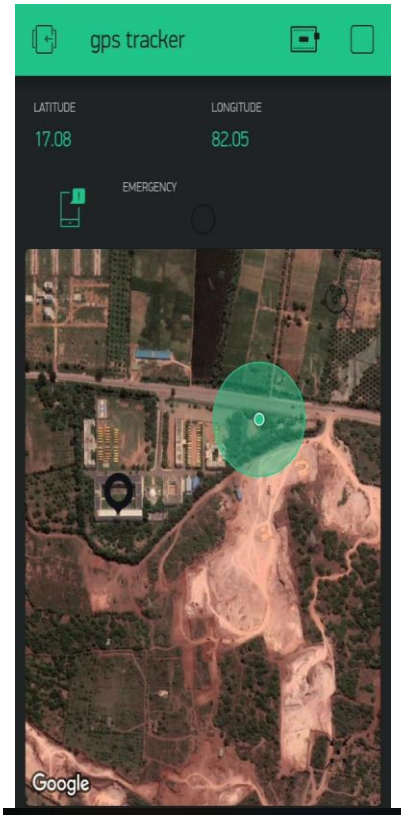

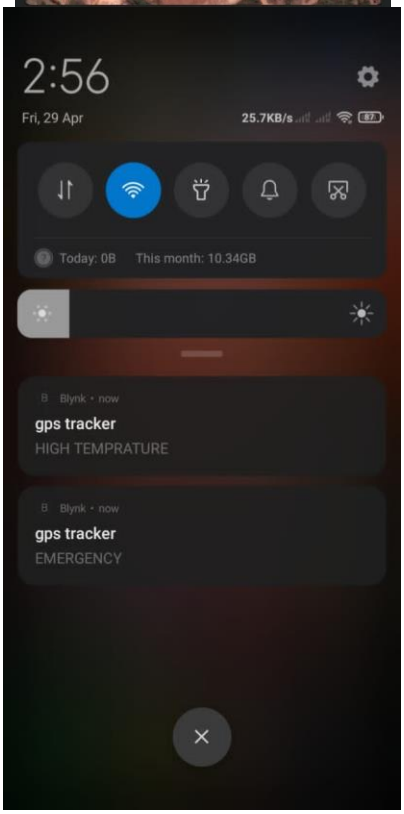

CONCLUSION

The main aim of this proposed system is to enable one to protect themselves from physical harm, molestation, abuse, sexual violation. The working kit in the above figures represents a prototype of the system, this in real time can be made as a wireless device, with further research and addition of few sensors a device for health care and safety can be made. This device can be of help for a certain extent and is more efficient in its own way. But the complete safety can be obtained when there is a change in the mindsets of the person using this instrument. When we start to value the humans, human values and morals over the materialistic things then this world becomes a safe place to live in, with peace, and humanity and can achieve greater heights.

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